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(51) INT CL³
B62K 21/12

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B7E SB

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(58) Field of search
B7E

(54) A handle bar for a cycle

(57) The handle bar (1) is of double looped shape and has grip portions (3) substantially parallel to each other and symmetrical with respect to a steering column of the cycle. The handle bar is formed from a body of moulded thermoplastic material in which a metal tube (8) is substantially embedded. The tube (8) is directly engageable with the steering column by means of a clamp allowing angular adjustment of the handle bar relative to the steering column. The tube (8) extends between the grip portions (3) along one of the fore and rear edges of the body and is provided with substantially bracket-shaped brake levers (10) supported for pivotable movement in a central region of the body. The body has a central recess (6) provided with a snap-fitted cover (7) which can support accessories.

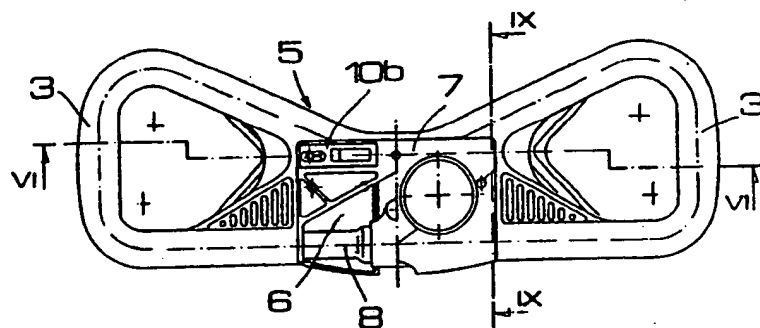
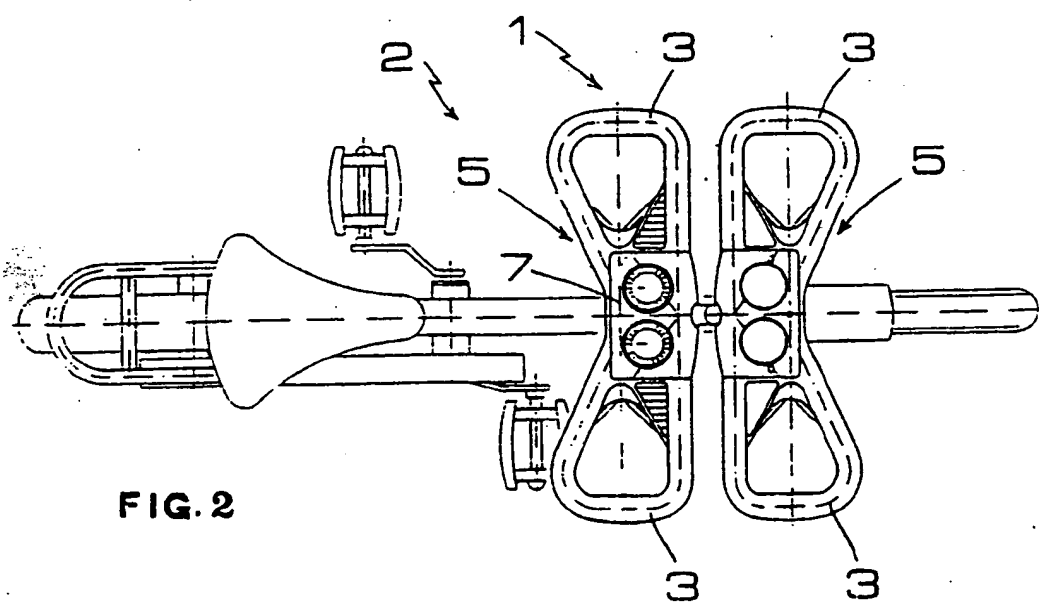
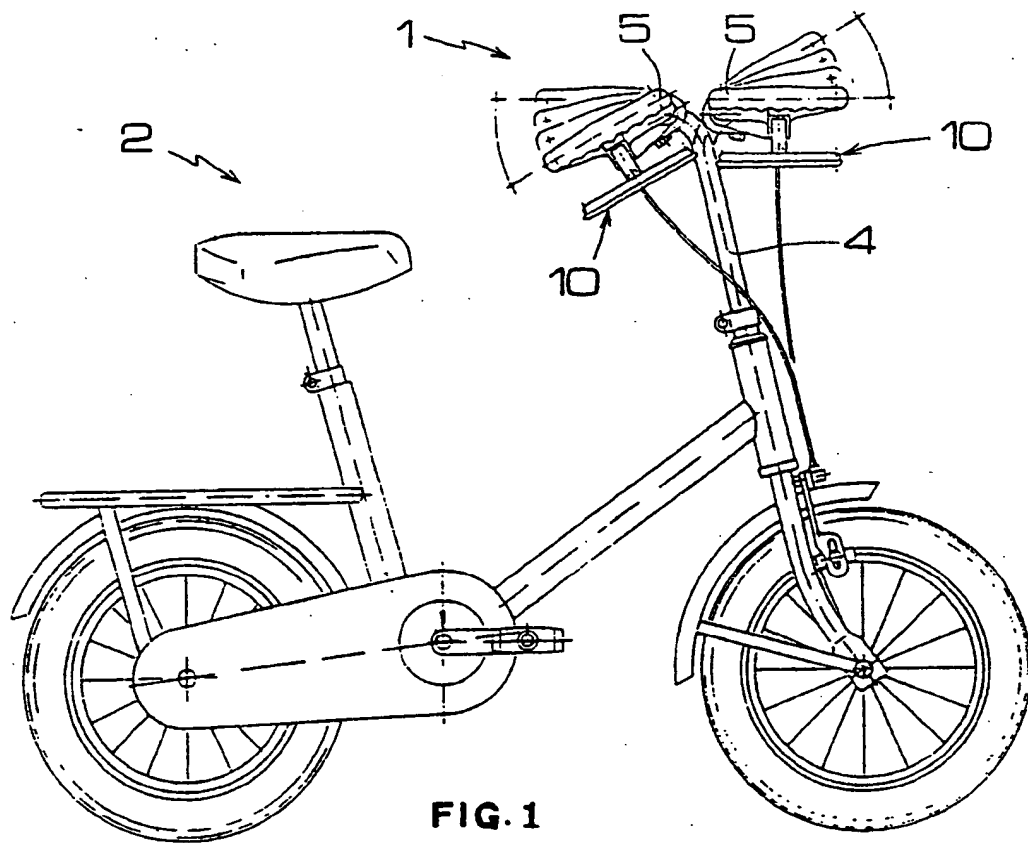


FIG. 8

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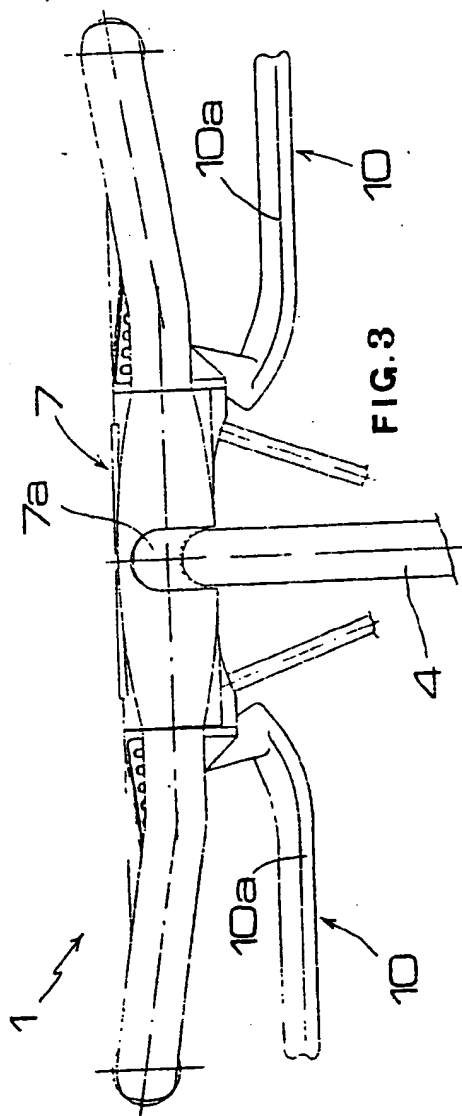


FIG. 3

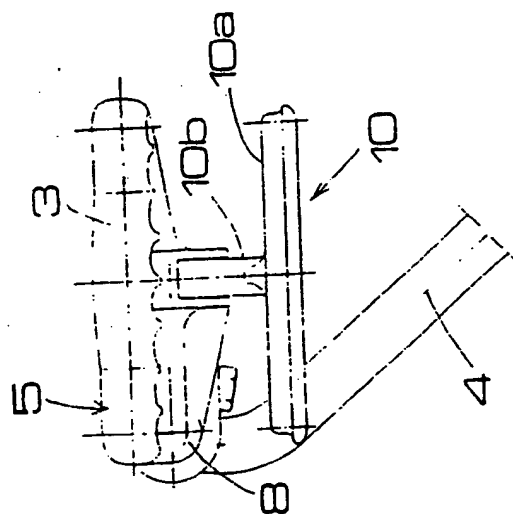


FIG. 4

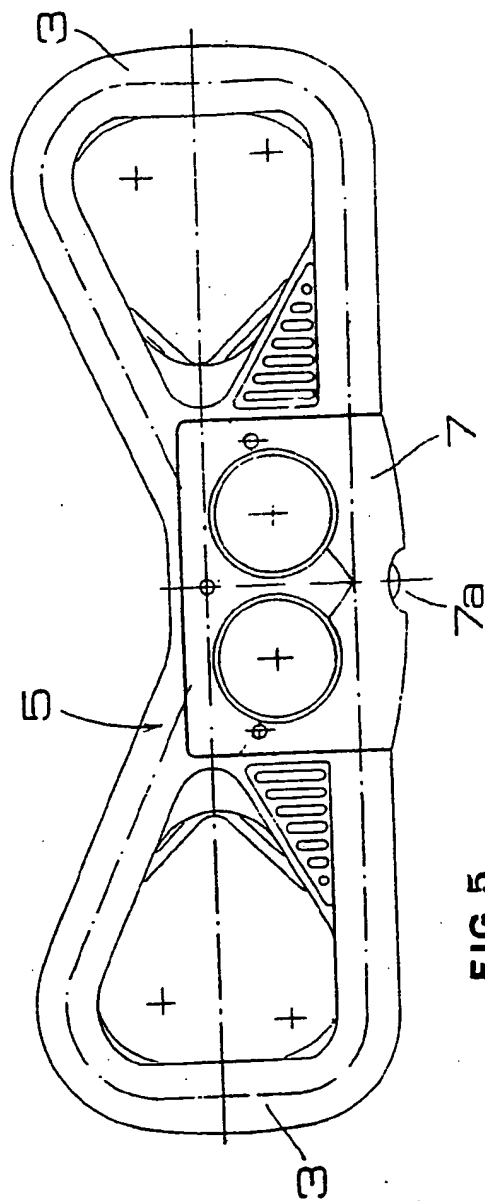


FIG. 5

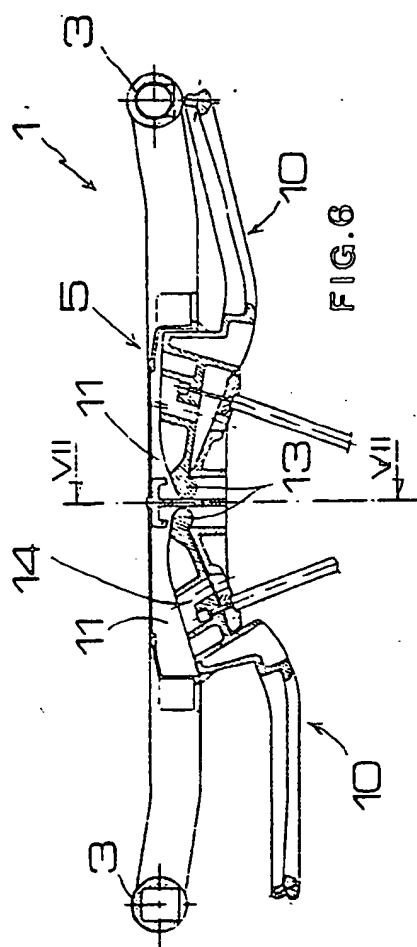


FIG. 6

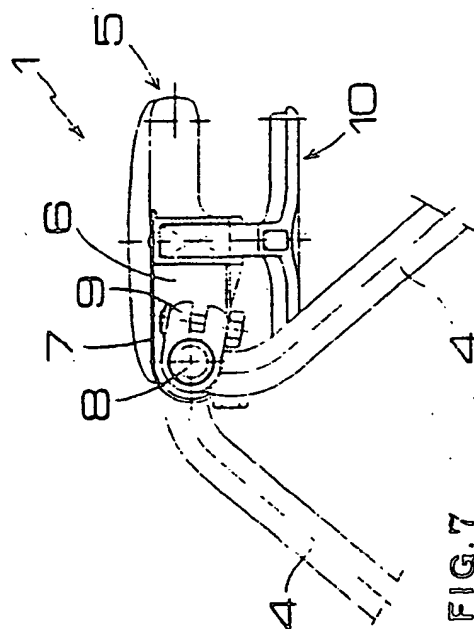


FIG. 7

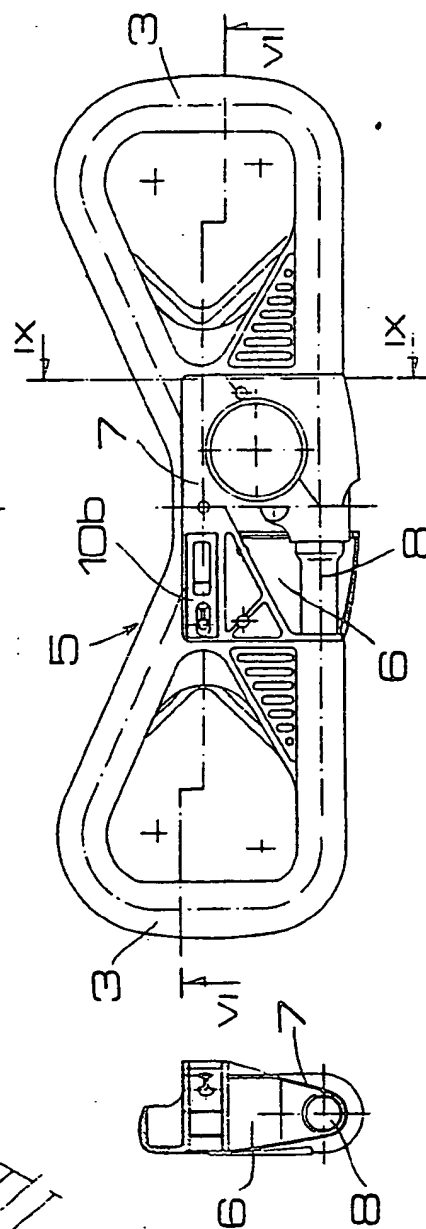


FIG. 8

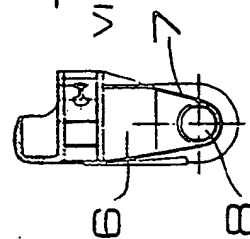


FIG. 9

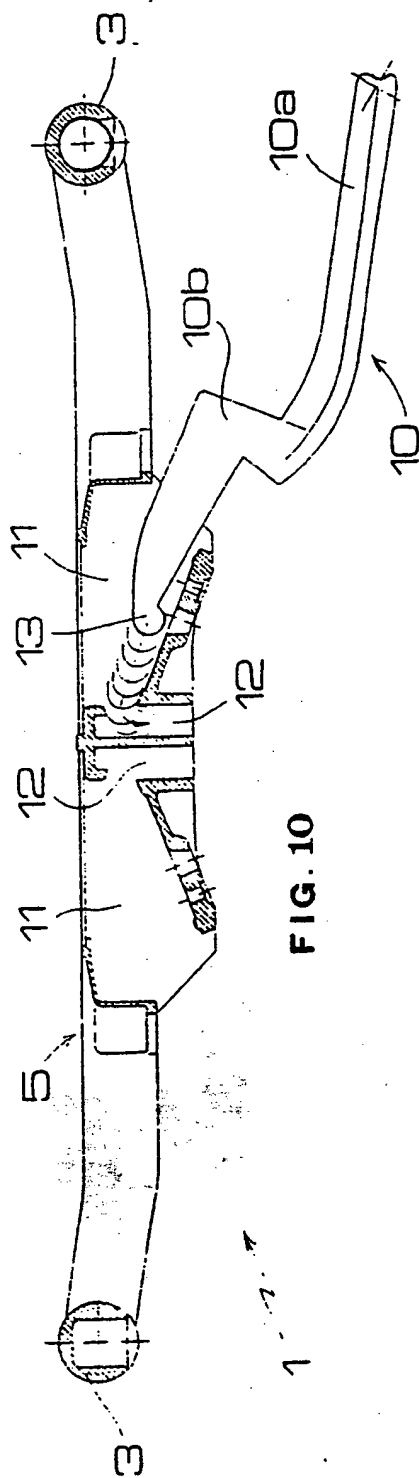


FIG. 10

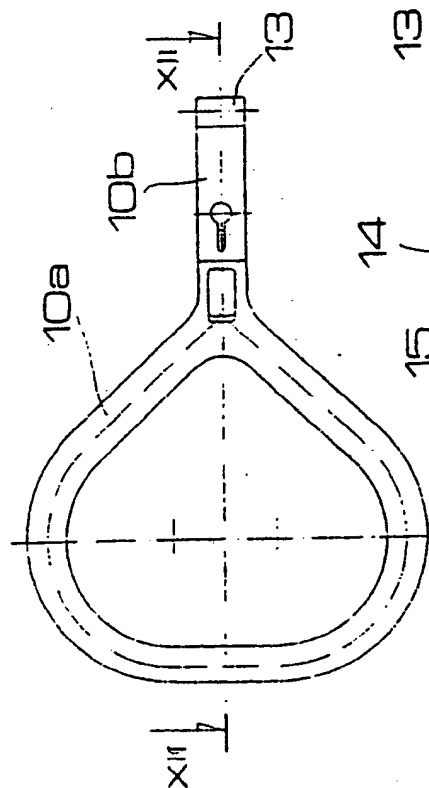


FIG. 11

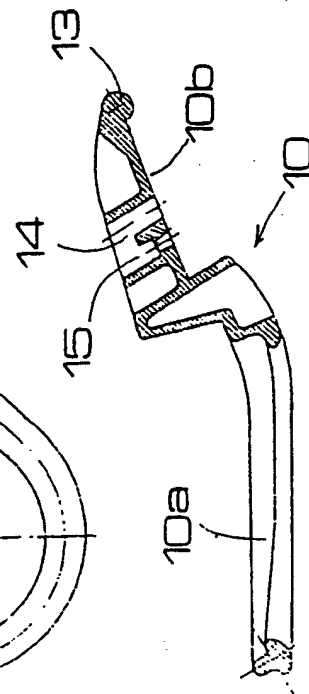


FIG. 12

SPECIFICATION

A handle bar for a cycle

5 The present invention relates to a handle bar for a cycle and more particularly but not exclusively for a child's bicycle.

Handle bars for bicycles of double looped shape and provided with grip portions substantially parallel to each other and symmetrical with respect to a steering column are already known in the art. Also well-known are handle bars of the traditional kind in the form of a bent metal tube having handles at each end thereof.

However although these known handle bars are substantially efficient and functional, they do have drawbacks. Known handle bars can be adjusted as to their position only within very restricted limits, the assembly of the brake levers is rather difficult and they are not satisfactory as regards safety owing to the fact that the brake levers exhibit slits that open and close when the brakes are applied and released.

The poor adjustment provisions affect the whole bicycle trim and correspondingly reduce its adaptability to use by persons of a size that does not exactly suit the frame's size. In addition, it is difficult to assemble the brake levers resulting in increased costs and involving the employment of skilled staff.

The invention provides a handle bar for a cycle, of double looped shape and having grip portions substantially parallel to each other and symmetrical in use with respect to a steering column of the cycle, the handle bar being formed from a body of moulded thermoplastic material in which a metal tube is substantially embedded, the metal tube being engageable with said steering column and extending between said grip portions corresponding alternatively to fore and rear edges of the body; said body being adapted to be equipped with substantially bracket-shaped brake levers leading to a central portion of the body, and the metal tube being engageable with said steering column by connecting means adapted to allow angular adjustment of the position of the handle bar with respect to the steering column, a central recess being provided in said body which is intended to allow said angular adjustment.

Advantageously, said body is centrally provided with housings designed to contain supporting arms for the bracket-shaped brake levers, able to limit angular movement of the same in a substantially vertical direction, and with housings for strain spherical heads at the ends of said arms.

Conveniently said central recess is suitable to be engaged with a covering case which can be snap fitted on said body.

It is thus possible to provide a particularly advanced handle bar as regards safety, that is

a handle bar which is able to meet all the requirements and regulations in force in the different countries in this particular field.

It is also possible to provide a handle bar having practically universal characteristics owing to the fact that it is provided with wide adjustment possibilities as to its position and inclination.

Moreover, the handle bar can be of a particularly simple structure, cheap and easy to produce while being able to assume very sophisticated characteristics as to its accessory outfits and decorative elements.

The invention will now be more particularly described with reference to the accompanying drawings, in which:

Figures 1 and 2 are side and plan views respectively of a bicycle provided with one embodiment of a handle bar according to the invention which is shown assembled in two different positions on the bicycle;

Figures 3, 4 and 5 are front, side and plan views respectively of the handle bar;

Figures 6, 7 and 8 are further front, side and plan views respectively of the handle bar, the same being seen according to corresponding sectional lines;

Figure 9 is a sectional view of the handle bar taken along the line IX-IX in Figure 8;

Figure 10 is a sectional view of the handle bar similar to that of Figure 6 but in which the brake levers are partially removed;

Figure 11 is a plan view of a brake lever; and

Figure 12 is a sectional view of the brake lever seen in Figure 11 taken along the line XII-XII.

Referring to the drawings, the handle bar shown therein is generally indicated by reference numeral 1. In Figures 1 and 2 it is shown as applied to a child's bicycle 2, for which it is particularly designed. However, the handle bar can be applied to other kinds of cycles.

The handle bar 1 is of double-looped shape having grip portions or handles 3 parallel to each other and symmetrically disposed with respect to a steering column 4.

The handle bar 1 is formed from a suitably shaped body 5 made of moulded thermoplastic material. The body 5 is provided with a central recess 6 (see Figures 6 to 9 in particular) intended both to lighten the body and to eventually accommodate accessories such as manually or electrically operable bell, a lamp supplying battery, a speedometer and a clock. The recess 6 can advantageously be concealed or substantially concealed by a covering case 7 which is snap-fitted on body 5.

The case 7 can be produced in different colours and have different patterns. Particularly, the covering case 7 can be adapted to carry the above mentioned accessories or can bear transfer printings.

Figure 8 shows that a metal tube is m-

bedded in body 5, this tube directly engaging the steering column 4. The metal tube 8 has a rectangular development and extends between end portions of grip portions 3 thus alternatively defining the fore and rear edge of the handle bar 1, according to the angular position of the steering column 4.

Figure 7 shows the engagement between the metal tube 8 and the steering column 4. This is achieved by connecting means adapted to allow an angular adjustment of the handle bar 1 position, with respect to a horizontal plane. Practically, the metal tube 8 is joined to the steering column 4 by means of a clamp 9 which can be secured in different positions and housed in the recess 6. The covering case 7 must be provided with a suitable opening 7a (see Figures 3 and 5 in particular) to allow for relative movement of the steering column 4 and clamp 9.

It should be observed that the body 5 has no chromium plated parts, as in some countries chromium is considered toxic and the body 5 is shaped so as to avoid any finger crushing, particularly close to brake levers 10. In fact, the handles 3 are hollow at their lower portions and levers 10 are inserted in the body 5 in housings that are not accessible to hands.

Figures 10 to 12 show the brake levers 10 as well as their advantageous engagement with body 5. It is possible to see that each brake lever 10 has substantially the form of a bracket comprising an annular portion 10a and an integral supporting arm 10b. The latter, owing to its stepped form, is completely contained in a corresponding housing 11 to limit pivotal movement of lever 10 in a substantially vertical direction. At the end of each housing 11 a restraining housing 12 is provided and the housing 12 is adapted to hold captive a spherical head 13 provided at the end of arm 10b and introduced by force into the housing 12. The restraining housing 12 prevents lever 10 from being removed and defines the centre of rotation for the lever 10.

Figure 12 shows that the supporting arm 10b of each lever 10 is provided with a housing 14 for receiving the end of a brake wire and particularly its wire terminal, which can be engaged within a recess 15 formed inside of said housing 14.

The handle bar 1 engages with the steering column 4, which can be differently shaped, close to the metal tube 8 and clamp 9. This engagement allows a selected angular position, within certain limits, of the inclination of handle bar 1 with respect to a horizontal plane, as seen in Figure 1. Furthermore, having the handle bar as a substantially symmetrical shape and with the metal tube 8 disposed at one edge of the handle bar, it is possible to rotate the handle bar and steering column through 180° so as to locate the handle bar in a more forward or less forward

position as shown in Figures 1 and 2.

When the most appropriate position within the allowed limits has been selected, it is also possible to insert one or two brake levers 10 by simply forcing them into the housings 11 and 12. The engagement can be obtained without using screws or securing rivets and therefore can be executed without difficulty and by unskilled persons.

Once inserted in their corresponding housings, the brake levers 10 completely hide the same housings thus avoiding any possible crushing of fingers due to an accidental introduction of hands in said housings.

It is also possible to introduce and secure the brake wires without difficulty owing to the presence of housings 14 and recesses 15, the latter supporting the wire terminals. It should be pointed out once again that the rotation of handle bar 1 through 180° in a substantially horizontal plane is helped by the symmetrical shape of brake levers 10 and by the fact that the supporting arms 10a are inserted in a central part of the handle bar 1 adjacent the recess 6.

Concealing the recess 6 by means of the covering case 7 is also particularly advantageous. In fact owing to the presence of this covering case, the opening 6 can be used as a service recess in any desired form. In addition, the covering case 7 secured by force on body 5, can be arranged in order to receive the most varied accessories.

The above handle bar has a very simple construction and can be made at low cost; it is provided with various features, has a large range of adjustment and is reliable in use.

CLAIMS

1. A handle bar for a cycle, of double looped shape and having grip portions substantially parallel to each other and symmetrical in use with respect to a steering column of the cycle, the handle bar being formed from a body of moulded thermoplastic material in which a metal tube is substantially embedded, the metal tube being engageable with said steering column and extending between said grip portions corresponding alternatively to fore and rear edges of the body, said body being adapted to be equipped with substantially bracket-shaped brake levers leading to a central portion of the body, and the metal tube being engageable with said steering column by connecting means adapted to allow angular adjustment of the position of the handle bar with respect to the steering column, a central recess being provided in said body which is intended to allow said angular adjustment.

2. A handle bar according to claim 1, wherein the body is centrally provided with housings for receiving supporting arms of the bracket-shaped brake levers, designed for limiting angular movement of the same in a

substantially vertical direction, and with restraining housings for spherical heads at the ends of said supporting arms.

3. A handle bar according to claim 2,
5 wherein said supporting arms are provided with housings for receiving the ends of the brake wires and with recess for receiving the wire terminals of the same.

4. A handle bar according to anyone of the
10 preceding claims, wherein a covering case snap-fittable on said body is provided, said covering case being arranged to conceal or substantially conceal the aforesaid recess and having an opening for said steering column.

- 15 5. A handle bar according to claim 4, wherein said covering case is arranged so as to accommodate accessories for said handle bar.

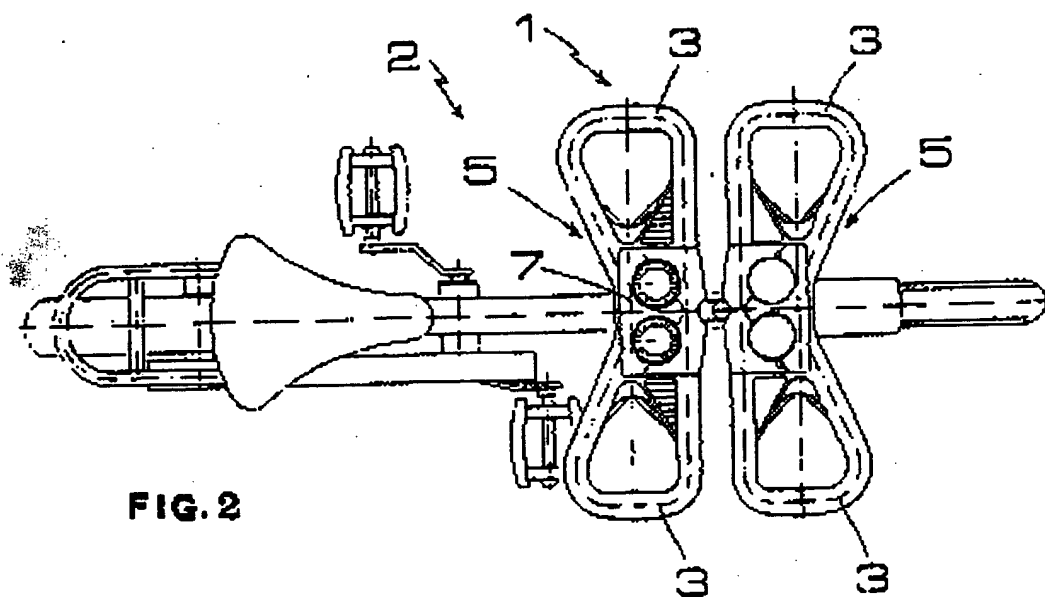
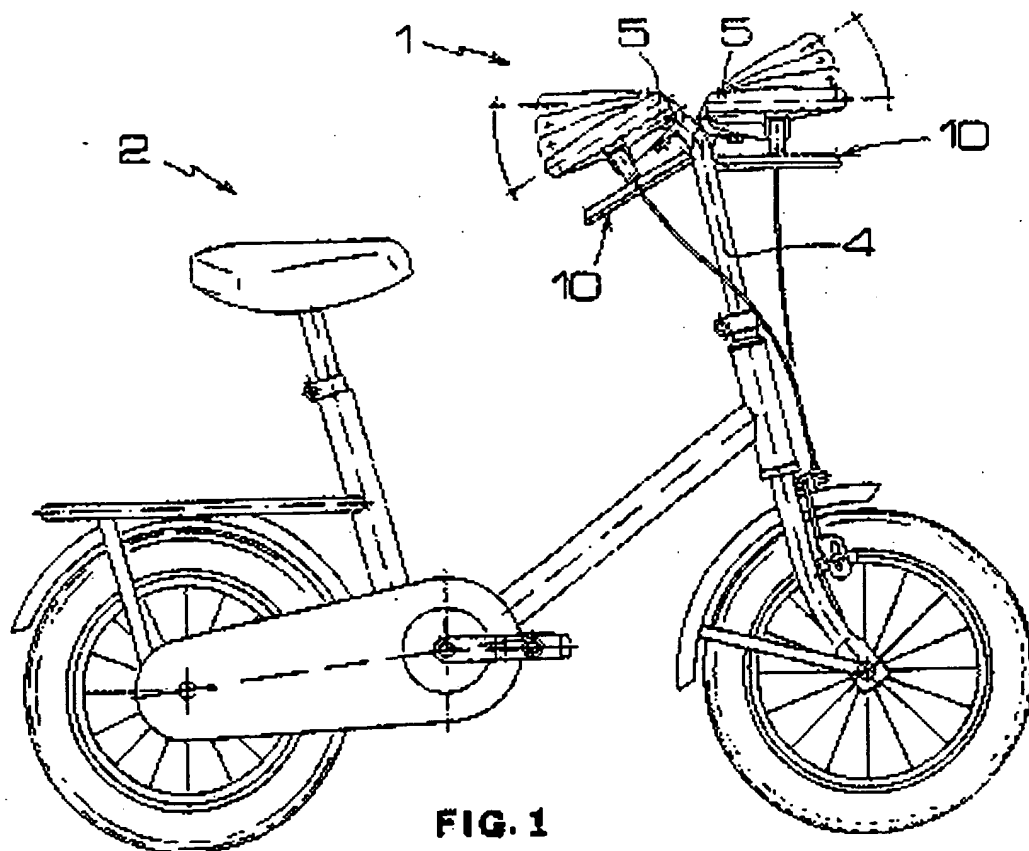
6. A handle bar according to anyone of the
20 preceding claims wherein said connecting means comprises a clamp adjustable by means of a screw threaded member.

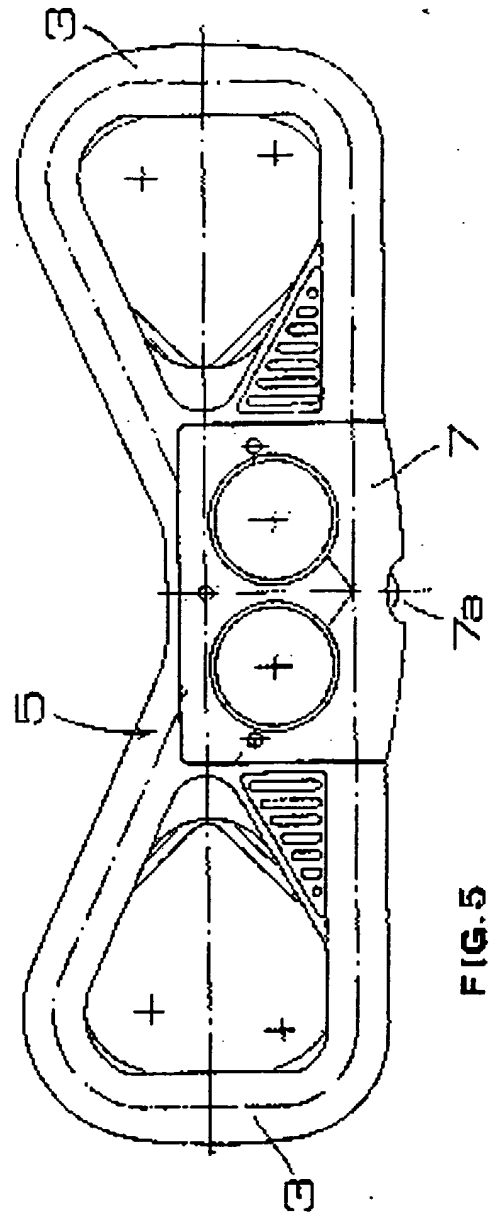
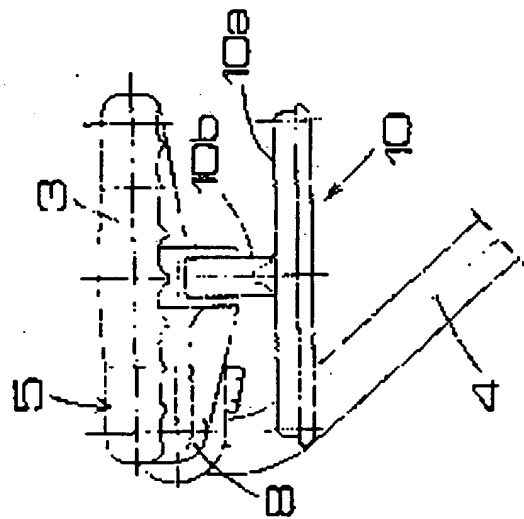
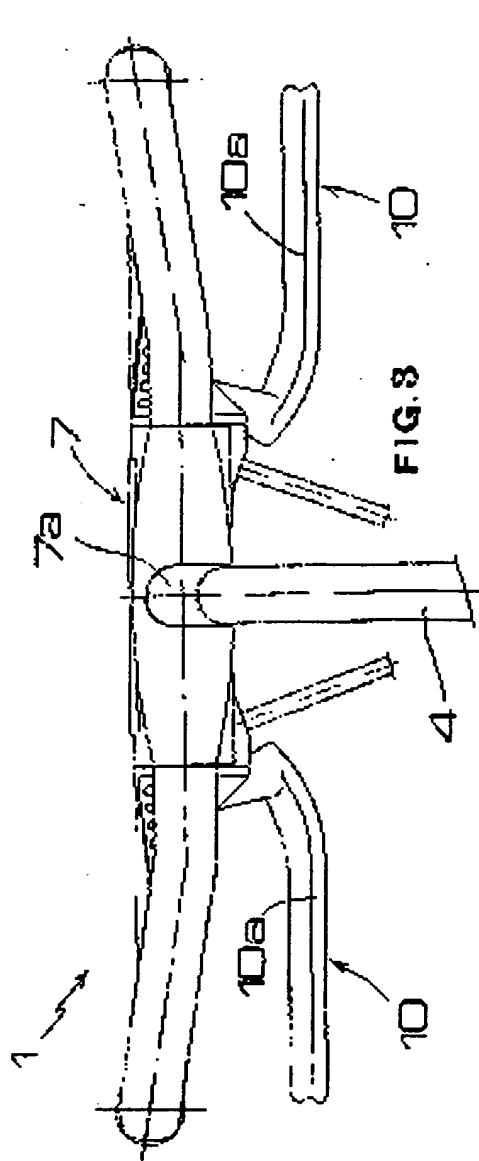
7. A handle bar according to claim 2 or
25 claim 3, wherein the supporting arm of each brake lever is of a stepped form.

8. A handle bar according to anyone of the
preceding claims, characterized in that said grip portions are hollow at their lower regions in correspondence of annular portions defining,
30 together with said supporting arms, said bracket-shaped brake levers.

9. A handle bar for a cycle substantially as hereinbefore described with reference to and as shown in the accompanying drawings.

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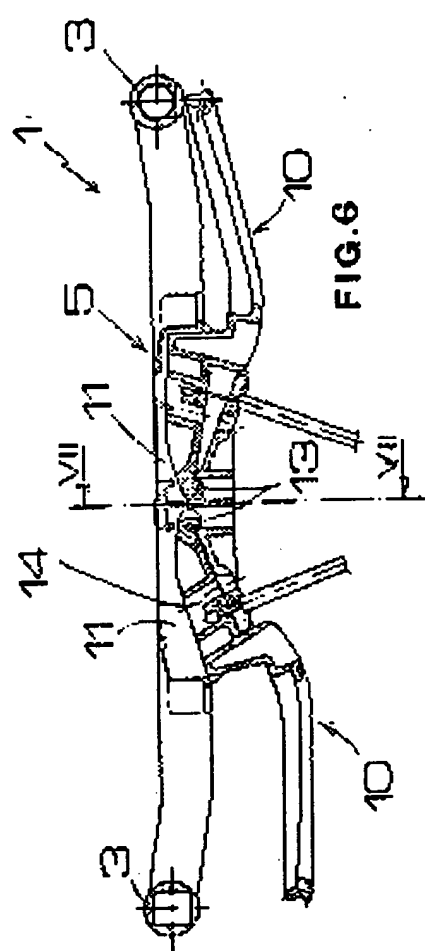


FIG. 6

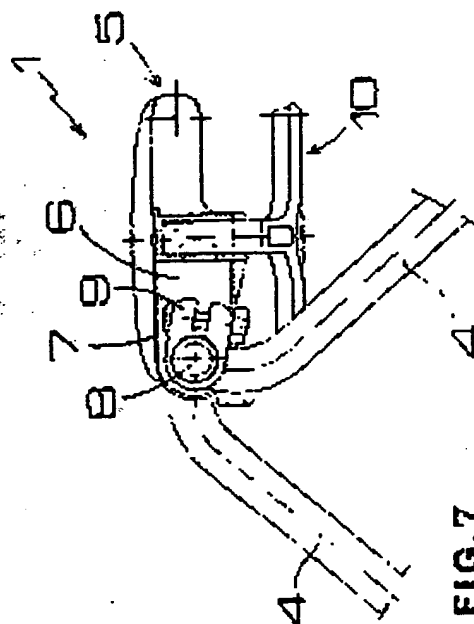


FIG. 7

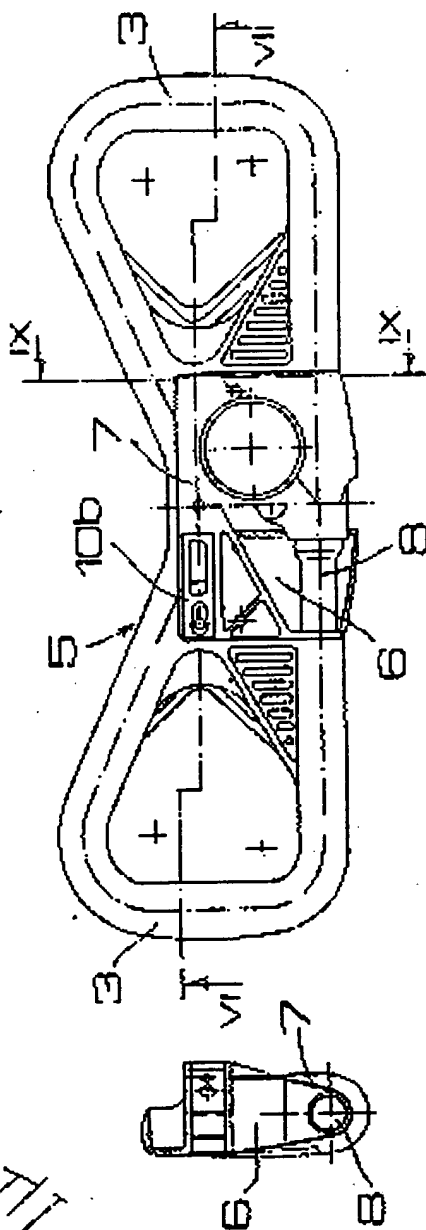


FIG. 8

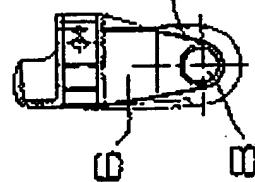


FIG. 9

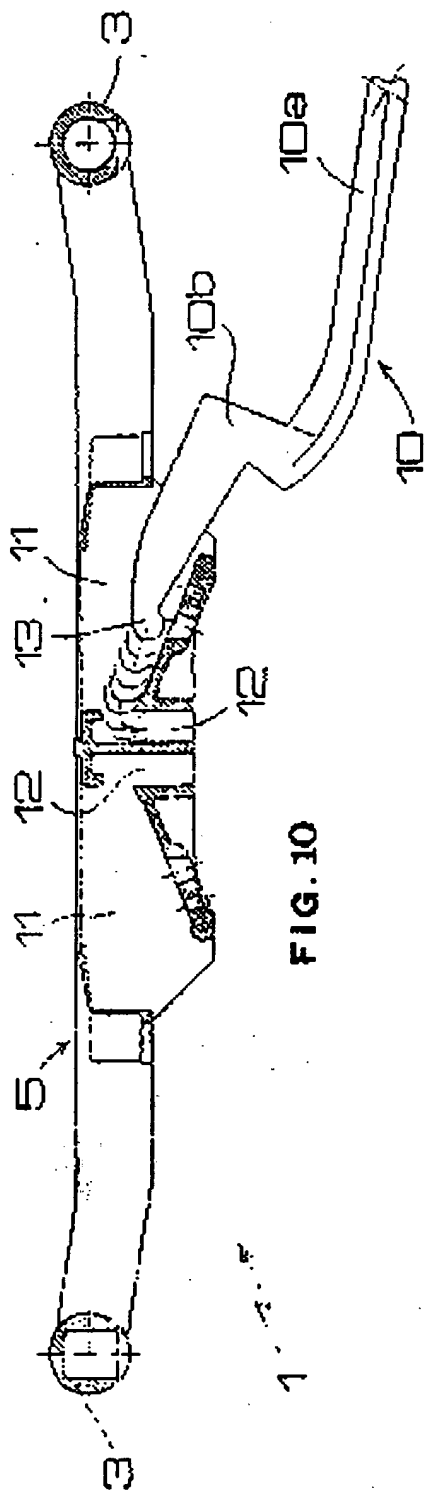


FIG. 10

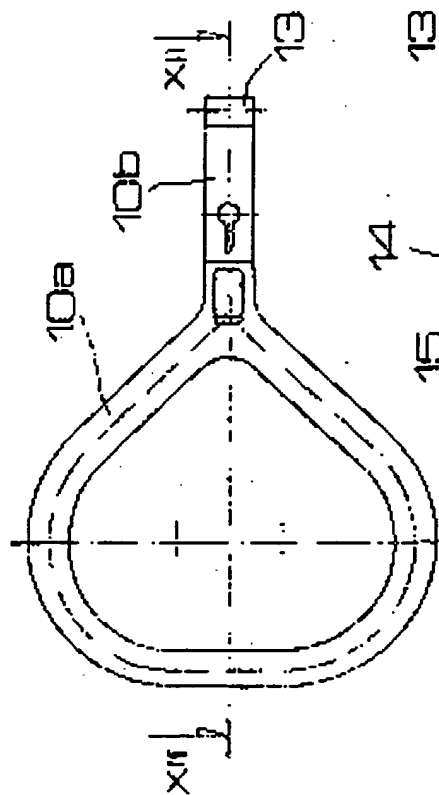


FIG. 11

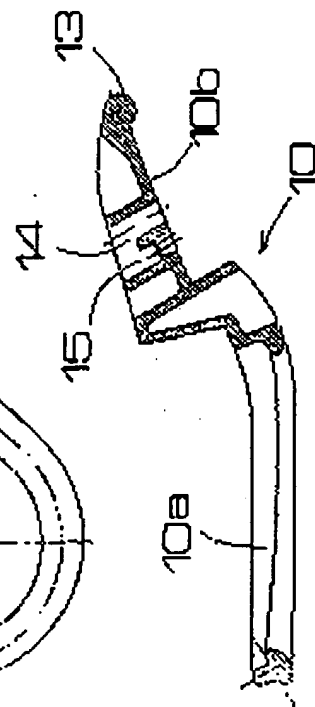


FIG. 12